

## Color Rear Video Projector

# KPR-46EX20/53EX20

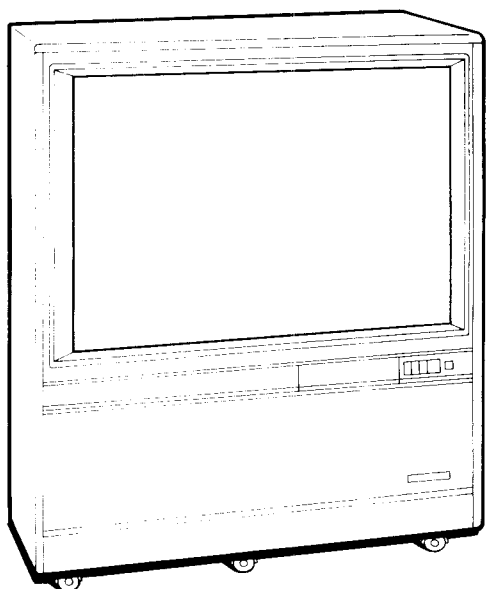
## Operating Instructions

Before operating the unit, please read this manual thoroughly, and retain it for future reference.

## Owner's Record

The model and serial numbers are located at the rear. Record these numbers in the spaces provided below. Refer to them whenever you call upon your Sony dealer regarding this product.

Model No. KPR-                      Serial No. \_\_\_\_\_



## Contents

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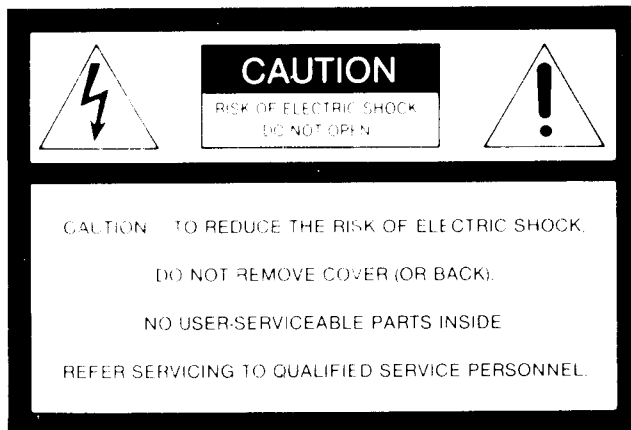
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## WARNING

To prevent fire or shock hazard, do not expose the unit to rain or moisture.



This symbol is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



This symbol is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

For the customers in Canada —  
**CAUTION:**  
TO PREVENT ELECTRIC SHOCK, DO NOT USE THIS POLARIZED AC PLUG WITH AN EXTENSION CORD, RECEPTACLE OR OTHER OUTLET UNLESS THE BLADES CAN BE FULLY INSERTED TO PREVENT BLADE EXPOSURE.

### Note to CATV system installer:

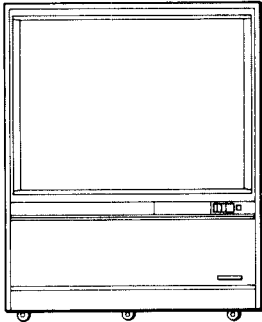
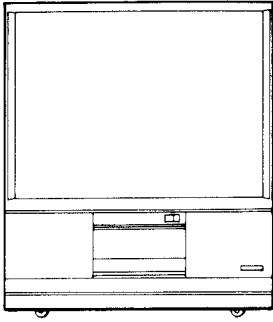
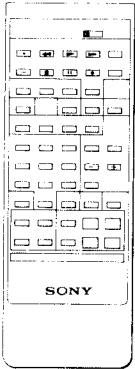
This reminder is provided to call the CATV system installer's attention to Article 820-22 of the NEC that provides guidelines for proper grounding and, in particular, specifies that the cable ground shall be connected to the grounding system of the building, as close to the point of cable entry as practical.

Use of this color rear video projector for other than private performance of programs broadcast for the use of the general public may require authorization from the transmitter and/or owner of such programs. Use with cable television transmission may require authorization from the cable system transmitter and/or program owner.

# Introduction

This manual covers models KPR-46EX20 and KPR-53EX20. The difference between them are only the screen size and shape of controls. KPR-46EX20 has a 46-inch screen and KPR-53EX20 has a 53-inch screen (measured diagonally). All other functions are exactly same.

We use model KPR-46EX20 for the illustrations in this manual.

| Model number              | KPR-46EX20                                                                          | KPR-53EX20                                                                          |
|---------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Shape                     |    |  |
| Supplied Remote Commander |  |                                                                                     |

# Features

- **Multiband VHF/UHF/CATV tuner** receives up to 125 cable channels for total of 181 possible off-air and cable channels.
- **Built-in MTS (Multichannel TV Sound) decoder** enables reception of stereo programs and Second Audio Program (SAP) broadcasts.
- **S VIDEO INPUT jack** which is connected to the S video output jack on the VCR allows superior pictures from the VCR to be displayed on the screen.
- **Built-in video and L/R audio line outputs** provide the selected output from the TV tuner or any of the equipment connected to the audio/video line inputs.
- **On-screen displays** for easy reference to operating modes and adjustments.

## And other features for a high quality picture ...

- **New Dynamic picture™ system** adjusts picture contrast automatically to produce more detail in both bright and dark areas of every scene.
- **Colorpure Filter™** produces fine picture detail without color spill or color noise.
- **VM (Velocity Modulation) circuit** produces clean and sharp black and white contrasts.
- **Dynamic Focus™ circuit** automatically focuses the scanning electron beam for enhanced sharpness over the entire picture, especially in the corners.
- **Liquid cooled optically coupled** picture tubes with new coolant formulation and pressure release diaphragm for generating super-bright images without heat build-up.
- **Shading compensation circuit** assures proper color balance across the entire screen.
- **High voltage regulator** maintains consistent image size and prevents "zooming" in and out of focus during sudden scene changes from dark to light.
- **Hybrid lenses:** a multi-element combination of top-quality coated glass lenses and spherical acrylic lenses for the best light-transiting and focusing characteristics of both materials.
- **Multi-layer lens coating** increases brightness and improves contrast ratio by reflecting light beams forward again and again.
- **Improved blue phosphor** helps maintain long-lasting pure, clean whites.
- **Improved green phosphor** minimizes "burn-in" effect of still images on your VideoScope screen, for up to double the long-term luminescence of your system.

The supplied Remote Commander provides you with many other convenient features.

- **Unicommander®** gives you command over functions of VideoScope and Sony video components.
  - **Sound Retrieval System (SRS®)\*** enhances the natural sound of a stereo source. (It is also effective for monaural source.)
  - **Built-in timer** automatically turns on or off the projector.
  - **Sleep timer** automatically turns off the projector after approximately one hour.
  - **Automatic programming** to preset all receivable channels instantly.
  - **ANT/AUX button** permits one-touch selection of pay cable TV when a converter is connected.
- \* Sound Retrieval System (SRS®) reproduces the ambience and dynamics of the original live performance so that you can enjoy the sound as if you are at the concert hall or in the recording studio. SRS enables you to enjoy the optimum sound from anywhere in the room.

## ● SOUND RETRIEVAL SYSTEM

The ● Sound Retrieval System is manufactured by Sony Corporation under license from the Hughes Aircraft Company, a subsidiary of GM Hughes Electronics. It is covered by U.S. Patent No. 4,748,669. Other U.S. and foreign patents pending.

●, Sound Retrieval System and SRS® are trademarks of the Hughes Aircraft Company, a subsidiary of GM Hughes Electronics.

# Precautions

## Safety

- Operate the unit only on 120 V AC.
- Should any liquid or solid object fall into the cabinet, unplug the unit and have it checked by qualified personnel before operating it any further.
- Unplug the unit from the wall outlet if it is not going to be used for several days or more. To disconnect the cord, pull it out by the plug. Never pull the cord itself.

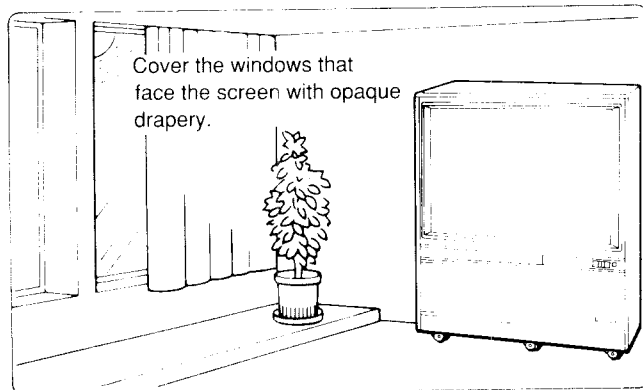
## Installation

- To prevent internal heat build-up, do not block the ventilation openings.
- Do not install the unit in a hot or humid place or in a place subject to direct sunlight, excessive dust or mechanical vibration.
- Avoid operating the unit at temperatures below 5°C (41°F).
- After the unit has been transported from a cold location directly to a warm location, or if the room temperature has changed suddenly, pictures may be blurred or show poor color over portions of the picture. This is because moisture has condensed on the mirrors or lenses inside the projector. Wait until the moisture evaporates.
- Avoid placing the unit on a slanting or uneven floor.

## Illumination

To obtain a clear picture, the screen should not be exposed to illumination or sunlight directly from the front.

Spot lighting directed down from the ceiling is recommended.



It is desirable to install the projector in a room whose floors and walls are not of light-reflecting material. If these are of reflecting material, it would be desirable to change to a dark carpet or wall paper.

## Maintenance

- Save the original shipping carton and packing material; they will come in handy if you ever have to ship your unit. For maximum protection, repack your unit as it was originally packed at the factory.
- To keep the cabinet looking brand-new, periodically clean it with a soft cloth. Stubborn stains may be removed with a cloth slightly dampened with a mild detergent solution. Never use strong solvents such as thinner or benzine, or abrasive cleansers since these will damage the cabinet. As a safety precaution, unplug the unit before cleaning it.
- To remove dust from the front of the screen, unplug the unit and wipe it gently with a soft cloth slightly dampened with water or a mild detergent solution, using vertical strokes only. Then wipe it again with a dry, soft cloth. Never use solvents or thinners for cleaning purposes.
- If the picture becomes darkened after the unit has been in use for a long period of time, cleaning the inside of the unit may be required. Consult qualified service personnel for this.
- Do not keep the still picture displayed. It may cause a phosphor mark on the screen.

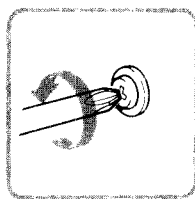
# Mounting the Mirror Cover (only for KPR-53EX20)

The mirror cover is turned over and is installed inside the cabinet for transporting. Please remount the mirror cover as follows.

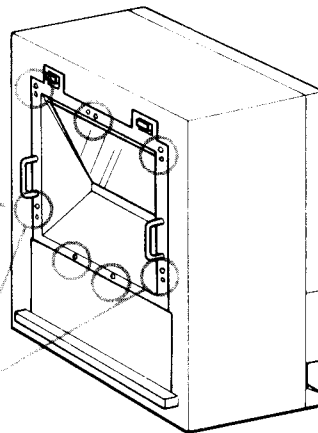
## Notes

- Before operation, turn off the power and unplug the power cord from the AC wall outlet.
- Handle the mirror cover with care as the mirror is mounted inside.
- Do not touch the mirror surface nor any parts inside cabinet.
- Do not use the handles to carry or transport the set. The handles are designed only for turning the mirror cover over.

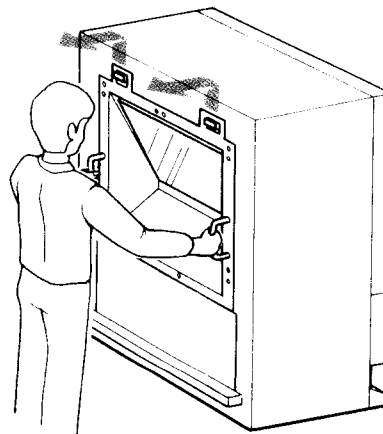
### 1 Remove the nine black screws.



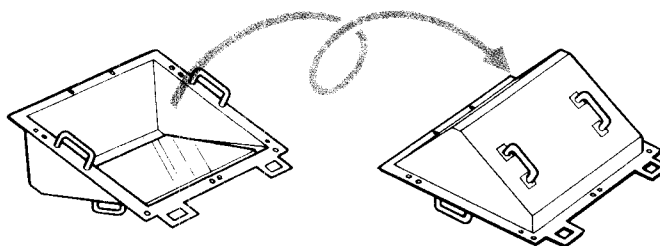
Secured with two screws each.



### 2 Slide the mirror cover up and out from the latches.

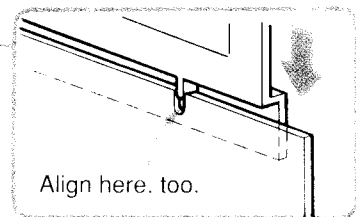
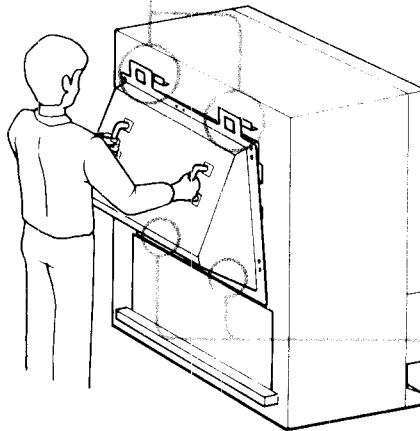
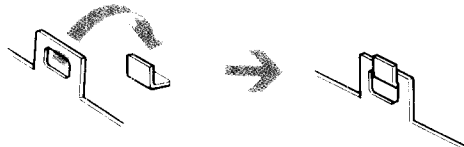


### 3 Turn the mirror cover over.



## 4 Hold the mirror cover by handles and remount it.

Be sure to hook the mirror cover on both latches.

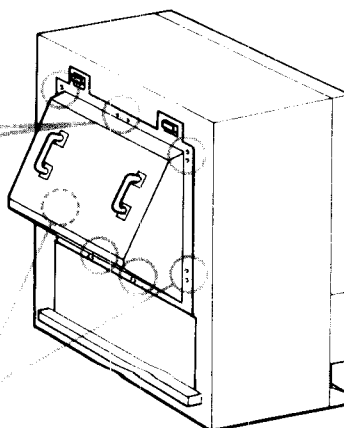


## 5 Secure the mirror cover by replacing the nine screws where they were removed from in step 1.

Use either screw hole.



Secure with two screws each.



# Location of Controls

For details, refer to the pages indicated in the circles.

## Front

### Item display 18

Indicates the selected item to be adjusted by the A/V WINDOW buttons and the RESET indication.

### Adjustment display 18

Indicates the picture and sound adjustment levels.

### Speaker

### Display for:

- Channel number
- MTS mode (MAIN, SAP or BOTH)
- Selected input sources (VIDEO 1, VIDEO 2 or VIDEO 3)
- AUX, MUTING or SLEEP indication

AUTO PROGRAM or Timer setting is displayed

### Speaker

Push to open the front panel.

### CABLE selector 14 16

### AUTO STEREO selector 17

### SPEAKER selector 30

### STEREO lamp 20

### Remote control detector

### POWER switch

### VIDEO 2 IN jacks 26

### Centering controls 13

### NORM/TEST selector 13

### TIMER lamp 25

### CHANNEL scan buttons 17

### VOLUME buttons 17

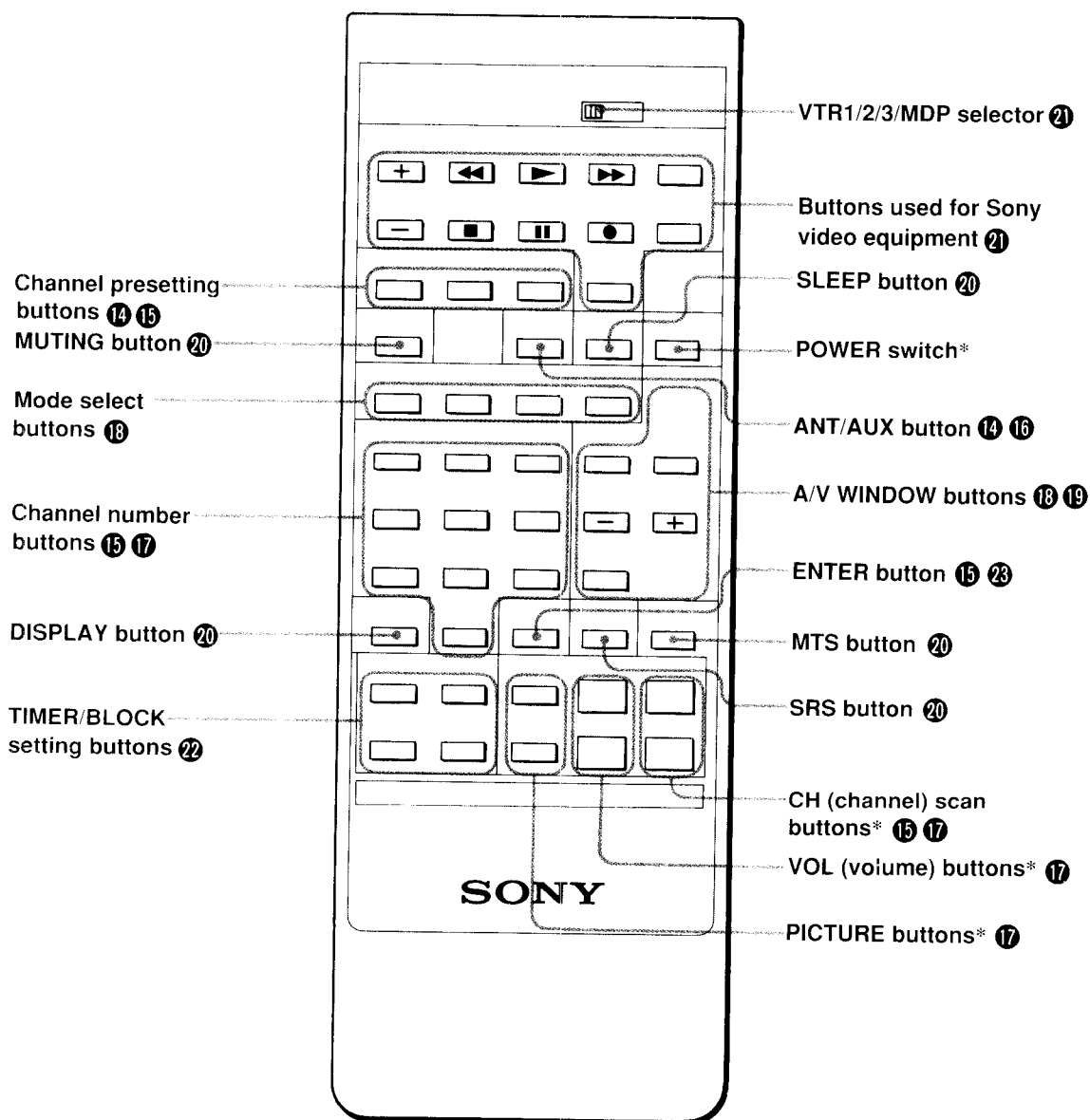
### TV/VIDEO buttons 14 17

## Remote Commander RM-788

### Note

Most of the operation requires the Remote Commander.  
Please do not lose it.

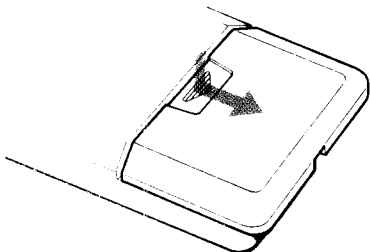
\* The functions of these buttons are available on the projector.



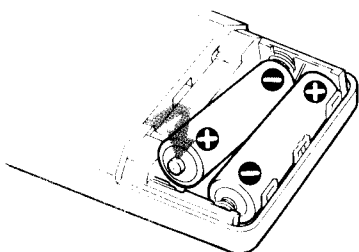
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### Battery installation

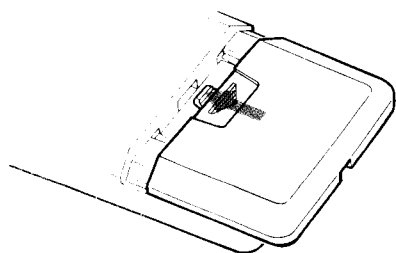
- 1** Slide to open the lid.



- 2** Install two size AA (R6) batteries with the correct polarity.



- 3** Replace the lid.



### Notes

- In normal operation, batteries will last up to half a year. If the unit does not operate properly, the batteries might be exhausted. Replace all with new ones.
- To avoid damage from possible battery leakage, remove the batteries for extended unused periods.
- Be sure that there are no obstructions between the Remote Commander and the unit.
- Operable range is limited.
- If a Remote Commander that is not recommended is used to operate this projector, or if the supplied Remote Commander is used to operate other equipment, the equipment may not operate properly.

# Connecting TV Antenna/Cable

Either an indoor antenna or outdoor antenna can be connected. For better quality picture, connecting an outdoor antenna is recommended.

Cable TV reception is only possible by connecting a cable supplied by your local company.

## To Connect a VHF, UHF, or VHF/UHF Combination Antenna\* or CATV Cable

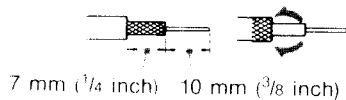
# 1

Check the cable type and prepare the cable end using the appropriate connector.

### 75-ohm coaxial cable (round)

Attach an F-type connector (not supplied).

# 1

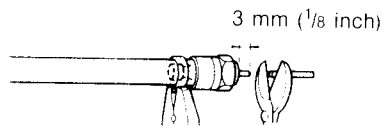


F-type connector

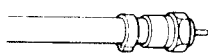
# 2



# 3



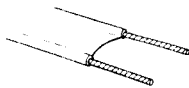
# 4



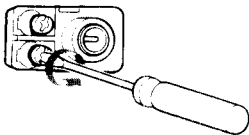
### 300-ohm twin-lead cable (flat)

Attach the supplied antenna connector.

# 1

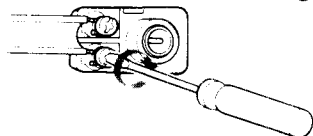


# 2



Loosen with a screwdriver.

# 3

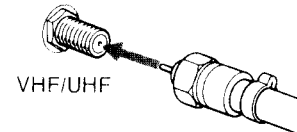


Attach the cable and fasten with a screwdriver.

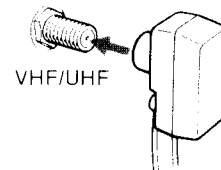
# 2

Plug the connector into VHF/UHF on the rear of the projector.

### 75-ohm coaxial cable (round)



### 300-ohm twin-lead cable (flat)



Most combination antennas are equipped with a signal splitter. Remove the splitter and attach the appropriate connector.

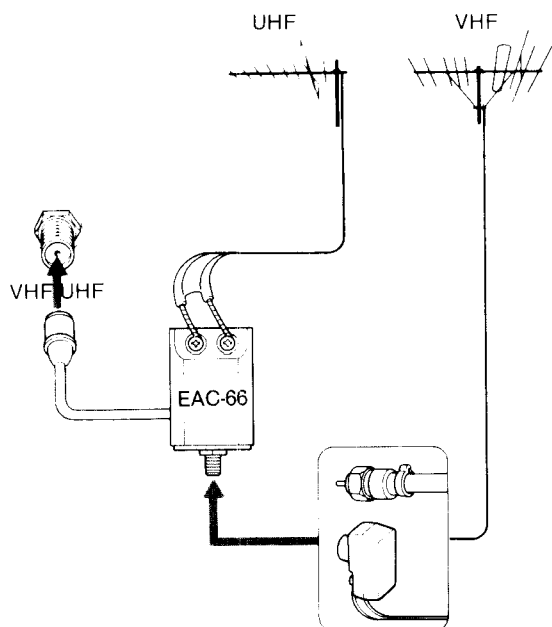
For a better quality picture, it is recommended to use the optional cable so that the 300-ohm twin-lead cable can be kept at a distance from the projector.

Continued on next page

**When you connect both VHF and UHF antennas**

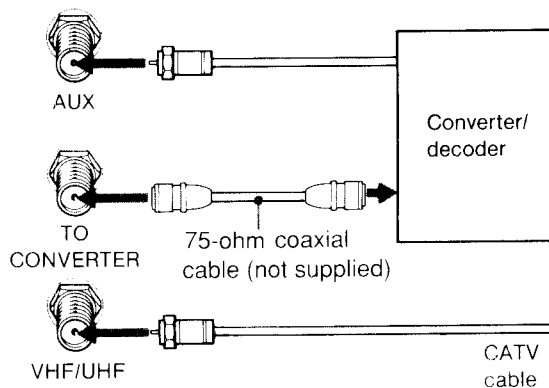
Use the supplied EAC-66 U/V mixer.

- 1** Prepare the VHF antenna end using the appropriate connector.
- 2** Connect the cables to the mixer.
- 3** Plug the mixer to VHF/UHF.

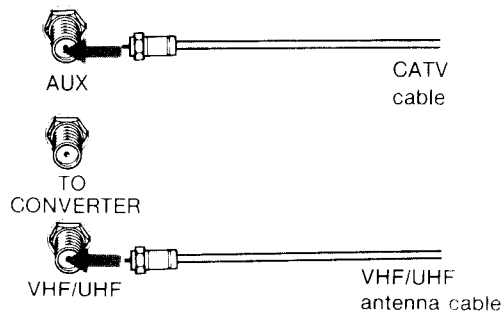


**When you connect a cable with a special converter/decoder\* for pay cable TV systems**

Pay cable TV systems use scrambled or encoded signals and require special converters (decoders) in addition to the normal cable connection.



**When you connect both VHF/UHF antennas and a CATV cable**



**Note**

In this case, do not connect anything to the TO CONVERTER terminal.

**When the U/V mixer is used**

Snow and noise may appear in the pictures of the cable TV channels over 37 (W+1).

\* The special converter/decoder will be supplied by the cable company.

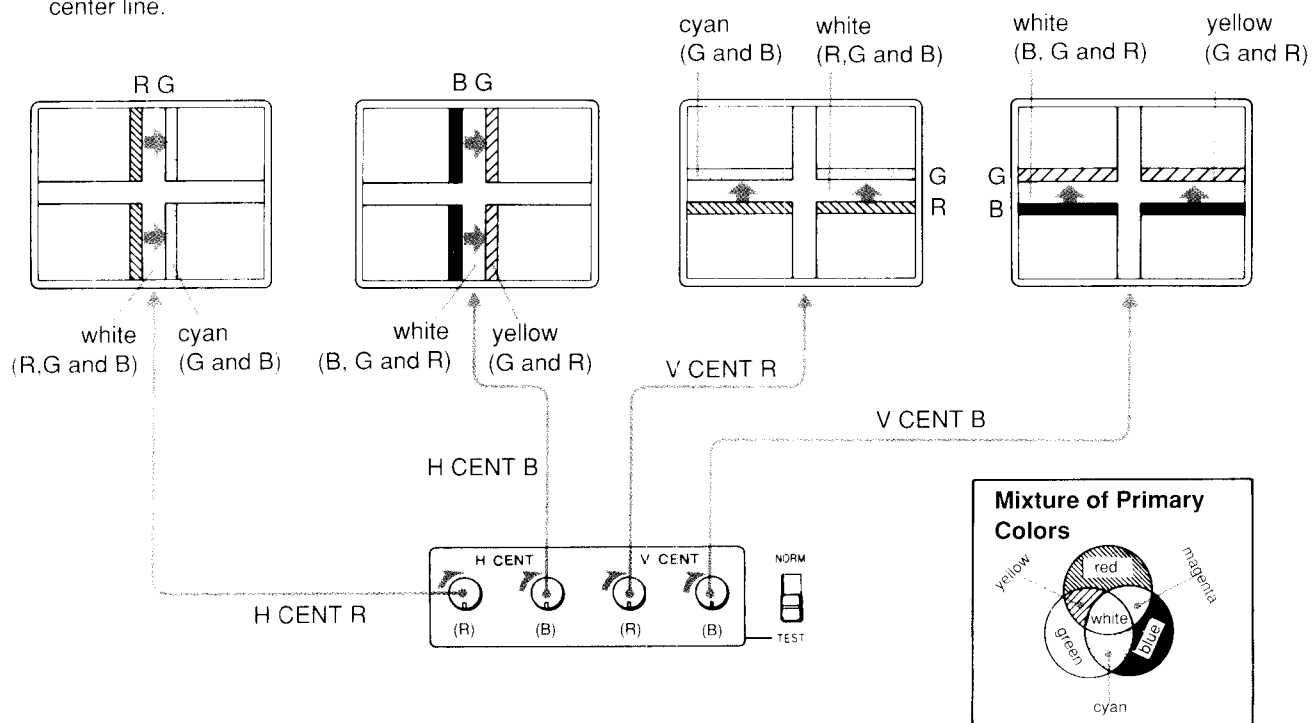
# Registration Adjustment

When the red, green and blue lines do not converge (the cross is not seen as white), perform the registration adjustment. Should the difficulty persist, contact your Sony dealer.

Follow steps 1 through 6.

- 1 Press POWER to turn on the unit.
- 2 Open the front panel and set the NORM/TEST selector to TEST. A built-in test pattern will be displayed on the screen.
- 3 Adjust the H CENT (B) and H CENT (R) controls so that the blue and red vertical lines converge with the center line.
- 4 Adjust the V CENT (B) and V CENT (R) controls so that the blue and red horizontal lines converge with the center line.

(In the illustration below:  
R=Red, G=Green, B=Blue)



As you turn the controls clockwise, the lines move in the direction indicated in the illustrations. To move the lines in the opposite direction, turn the controls counterclockwise.

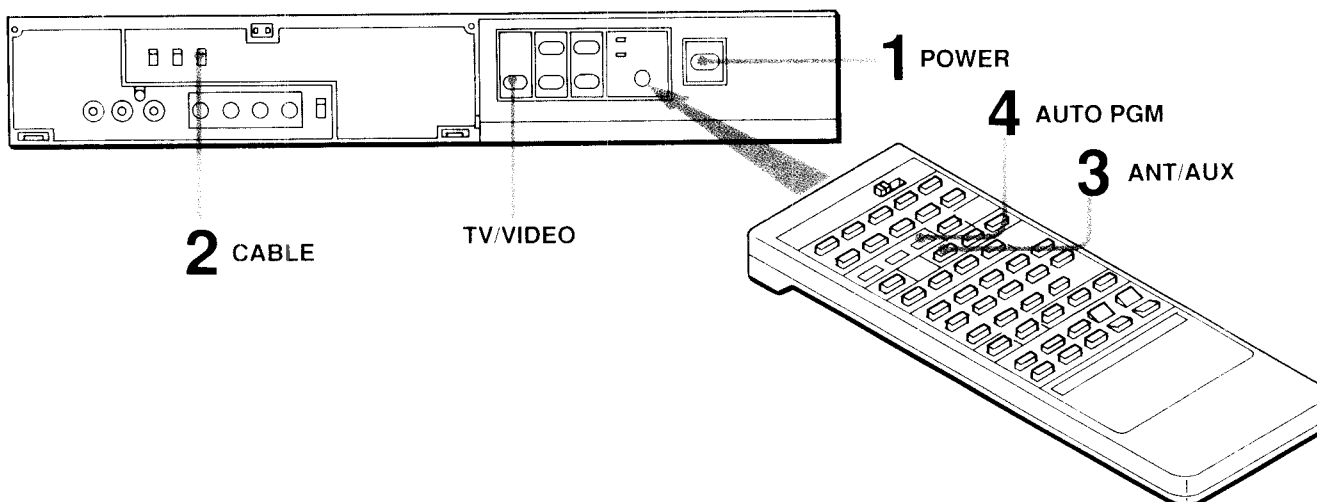
## Note

When the NORM/TEST selector is set to TEST, sound will not be heard.

- 5 Repeat steps 3 and 4 until the cross appears white.
- 6 After the adjustment is completed, set the NORM/TEST selector to NORM.

# Presetting TV Channels

## To Preset All Receivable Channels Automatically



**1** Turn on the projector.

POWER



**2** Set CABLE to the correct position.

ON  
OFF  
CABLE

**3** Press ANT/AUX according to the channel to be preset.



**4** Press AUTO PGM.

AUTO PGM



"AUTO PROGRAM" is displayed on the screen and receivable channels ( other than the channels already preset ) will be preset in numerical sequence. The channels previously preset remain in the unit's memory.

When no more channels can be found, the programming stops and the lowest numbered channel is displayed.



Receivable channels of this projector are:

VHF: 2-13  
UHF: 14-69  
Cable: 1-125

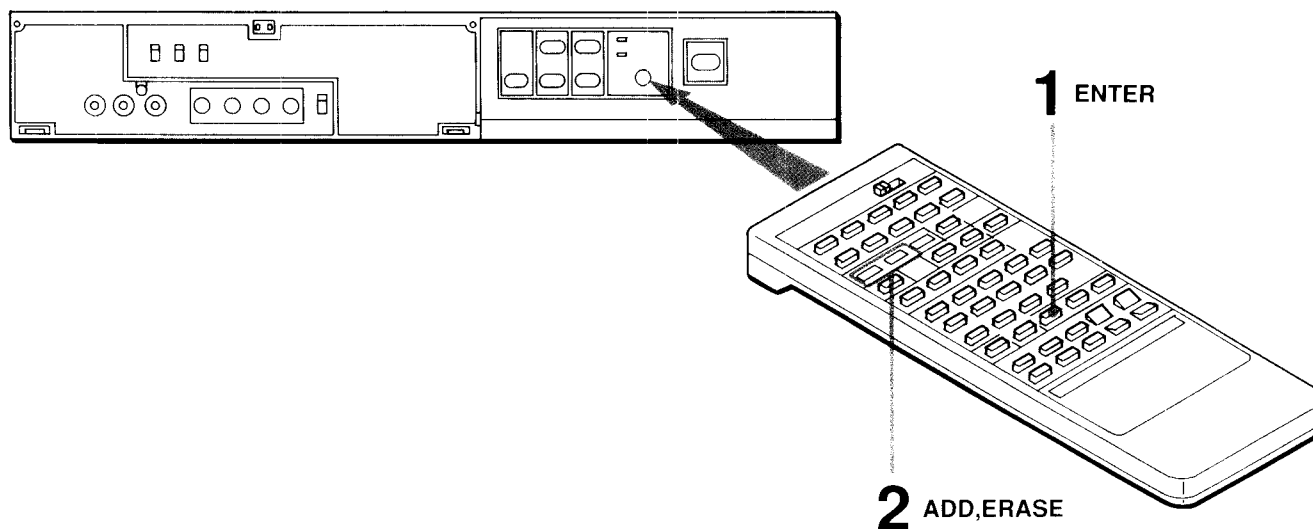
To check preset channels

Press CH +

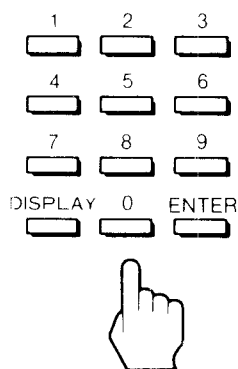
To add the channels that could not be preset with automatic programming because their signal strength was too weak, or to erase unnecessary channels, follow the steps in "To preset only the desired channels" on the next page.

If the "VIDEO 1", "VIDEO 2", or "VIDEO 3" indication is displayed on the screen, press TV or TV/VIDEO so that a channel number appears.

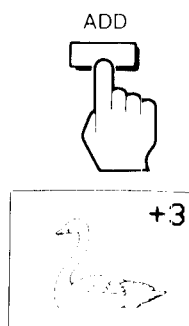
## To Preset Only the Desired Channel or to Erase Unnecessary Channels



- 1** Press the channel number button(s) and then ENTER to select the channel to be added or erased.

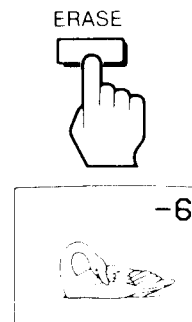


- 2** **To add channels**  
Press ADD.



A "+" appears for a moment.  
This channel has now been added to the channel scan memory.

- To erase channels**  
Press ERASE.



A "-" appears for a moment.  
This channel has now been erased from the channel scan memory.

Repeat steps 1 and 2 for other channels to be added or erased.

### When a VHF or UHF channel is erased

The cable TV channel with the same number is also erased and vice versa.

### Cable TV channel chart\*

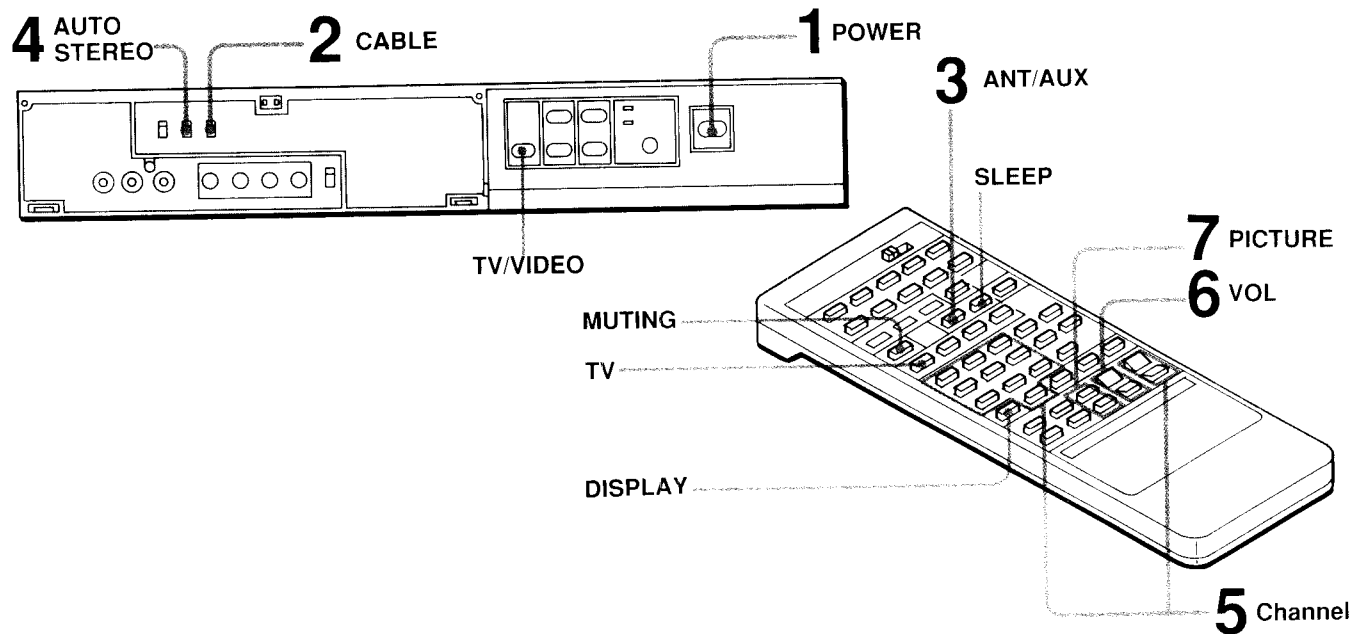
Cable TV systems use letters or numbers to designate channels. To tune in a channel, refer to this chart.

|                            |    |    |    |    |    |     |     |     |       |      |      |     |     |     |     |     |      |      |      |       |      |      |      |    |    |
|----------------------------|----|----|----|----|----|-----|-----|-----|-------|------|------|-----|-----|-----|-----|-----|------|------|------|-------|------|------|------|----|----|
| Number on this set         |    |    |    |    |    | 1   | 5   | 6   | 14    | 15   | 16   | 17  | 18  | 19  | 20  | 21  | 22   | 23   | 24   | 25    | 26   | 27   | 28   | 29 | 30 |
| Corresponding CATV channel |    |    |    |    |    | A-8 | A-7 | A-6 | A     | B    | C    | D   | E   | F   | G   | H   | I    | J    | K    | L     | M    | N    | O    | P  | Q  |
| 31                         | 32 | 33 | 34 | 35 | 36 | 37  | 38  | 39  | ..... | 93   | 94   | 95  | 96  | 97  | 98  | 99  | 100  | 101  | 102  | ..... | 123  | 124  | 125  |    |    |
| R                          | S  | T  | U  | V  | W  | W-1 | W-2 | W+3 | ..... | W+57 | W+58 | A-5 | A-4 | A-3 | A-2 | A-1 | W+59 | W+60 | W+61 | ..... | W+82 | W+83 | W+84 |    |    |

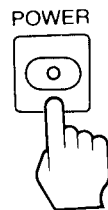
Check with your local cable TV company for more complete information on the available channels.

\* The designation of the cable TV channels conforms to the EIA/NCTA recommendation.

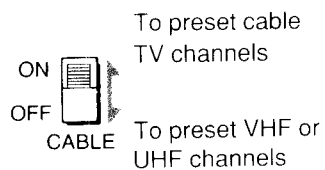
# Viewing TV Programs



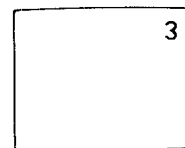
**1** Turn on the projector.



**2** Set CABLE to the appropriate position.



**3** Press ANT/AUX according to the channel to be viewed.

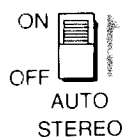


To view VHF, UHF or regular cable TV channels



To view pay cable TV channels

#### 4 Set AUTO STEREO to ON.

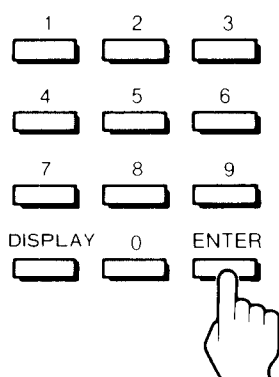
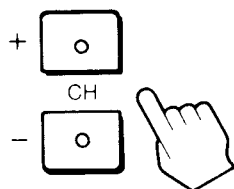


#### 5 Select a channel in one of the following two ways:

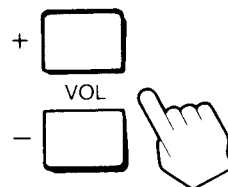
To scan the preset channels in numerical sequence, press CH +/-.

##### To select a channel directly

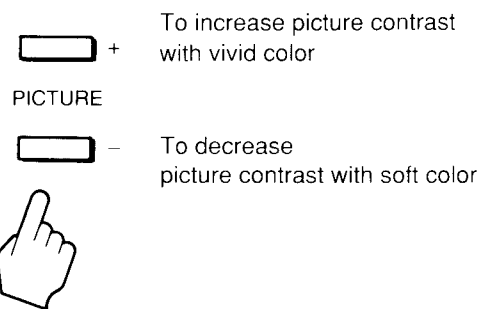
Press the channel number button(s) and then ENTER. For example, to select channel 10, press 1, 0 and ENTER.



#### 6 Press VOL + or - to adjust the volume.



#### 7 Press PICTURE + or - to adjust picture.



If the "VIDEO 1", "VIDEO 2" or "VIDEO 3" indication is displayed on the screen

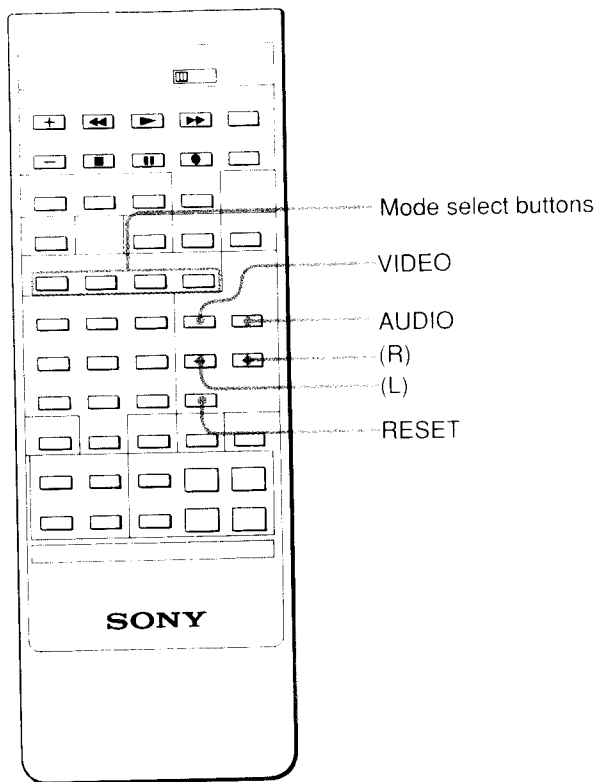
Press TV or TV:VIDEO so that a channel number appears.

##### To turn off the unit

Press POWER again.

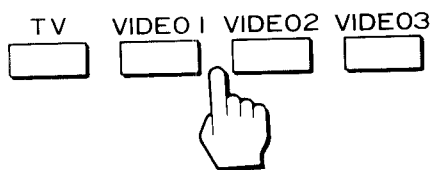
# Adjusting the Picture and Sound Level

You can adjust the picture and sound levels and have the unit store them for each input mode (TV/VIDEO 1/2/3).



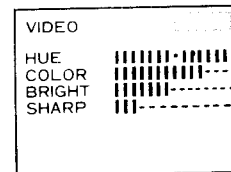
## Before adjusting

Select the input mode to be adjusted using TV/VIDEO 1/2/3.



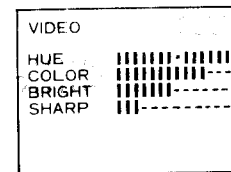
## Adjusting the Picture

### 1 Press VIDEO.



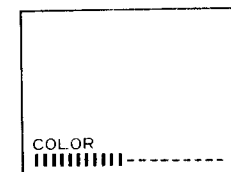
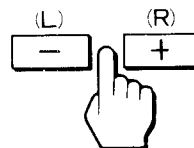
Selected mode

### 2 Press VIDEO repeatedly until the adjusting item blinks.



Selected mode

### 3 Press (L) or (R) to adjust.

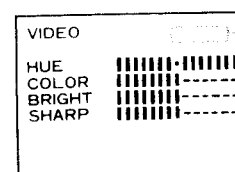


| Adjusting item | Pressing – (L) button      | Pressing + (R) button      |
|----------------|----------------------------|----------------------------|
| HUE            | Skin tones become purplish | Skin tones become greenish |
| COLOR          | For less color intensity   | For more color intensity   |
| BRIGHT         | For less brightness        | For more brightness        |
| SHARP          | For less sharpness         | For more sharpness         |

The indication will go off after a few seconds.

## To reset to the factory preset levels

Press RESET.

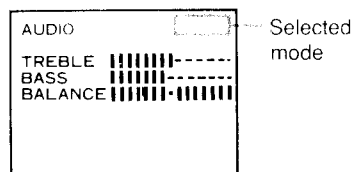


Selected mode

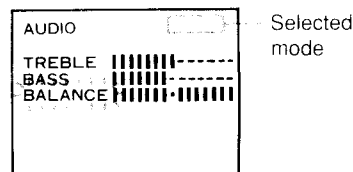
The indication will go off after a few seconds.

## Adjusting the Sound

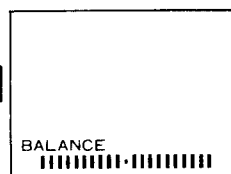
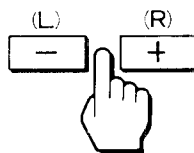
### 1 Press AUDIO.



### 2 Press AUDIO repeatedly until the adjusting item blinks.



### 3 Press (L) or (R) to adjust.

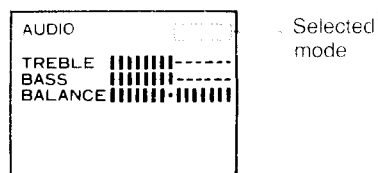


| Adjusting item | Pressing – (L) button                  | Pressing + (R) button                   |
|----------------|----------------------------------------|-----------------------------------------|
| TREBLE         | To decrease treble response            | To increase treble response             |
| BASS           | To decrease bass response              | To increase bass response               |
| BALANCE        | To emphasize the left speaker's volume | To emphasize the right speaker's volume |

The indication will go off after a few seconds.

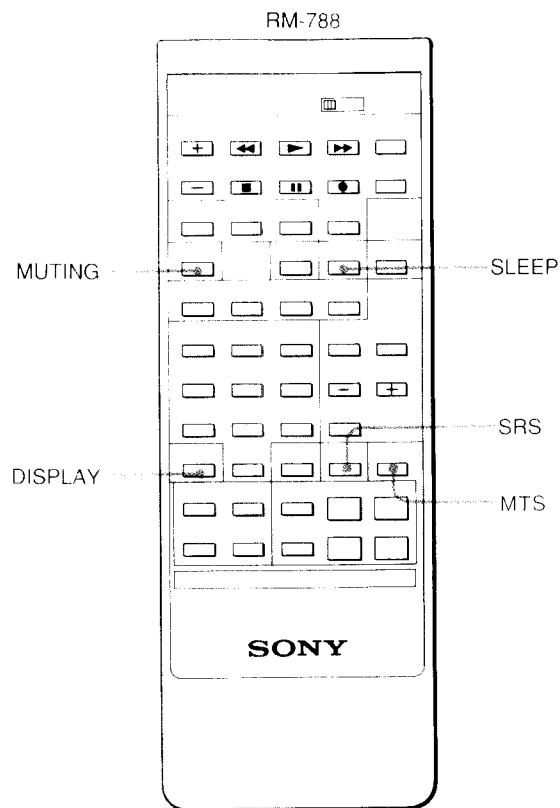
## To reset to the factory preset levels

Press RESET.



The indication will go off after a few seconds.

# Enjoying Convenient Features



## Muting the sound

### Press **MUTING**.

The "MUTING" indication will appear on the screen.

To restore the sound, press **MUTING** again or **VOL +**.

## Keeping the channel displayed

### Press **DISPLAY**

To make the channel display disappear, press

**DISPLAY** again.

## Using the **SLEEP** timer

### Press **SLEEP**

The TV will be turned off automatically after about 1 hour regardless of the clock setting.

The green "SLEEP ON" indication will appear on the screen for three seconds when the **SLEEP** button is pressed. And the red "SLEEP" indication will appear one minute before the unit is turned off automatically. To cancel the **SLEEP** timer, press **SLEEP** again so that the "SLEEP OFF" indication appears, or turn off the unit.

## For more natural sound reproduction

### Press **SRS** (sound retrieval system)

The "(●) SRS" indication will appear on the screen.

To cancel **SRS**, press **SRS** to select **SRS OFF**.

Each time **SRS** is pressed, **SRS (STEREO)**, **SRS (MONO)** or **SRS OFF** is selected in sequence. In the **SRS (MONO)** mode the natural sound of a monaural source can be also enhanced.

## Receiving a Multichannel TV Sound program

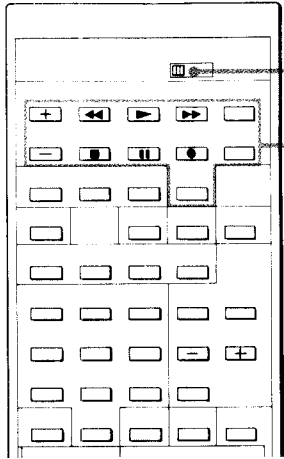
Each time **MTS** is pressed, **MAIN**, **SAP** (Second Audio Program), or **MONO** is selected in sequence.

To listen to stereo sound, select the **MAIN** mode so that the on-screen **MAIN** indication appears. The **STEREO** lamp on the TV lights up whenever a stereo broadcast is received.

There may be cases of stereo broadcasts where excessive noise will be heard due to a weak incoming signal. You may be able to eliminate this noise by selecting the **MONO** mode.

## Operating Sony Video Equipment

The supplied Remote Commander allows you to operate Sony video cassette recorders (including Beta, 8 mm, VHS), and video disc players (including multi disc player).



**1** Set the VTR 1/2/3/MDP selector according to the desired video equipment.

VTR 1-2-3      MDP



|                   |       |
|-------------------|-------|
| Beta, ED Beta VCR | VTR 1 |
| 8 mm VCR          | VTR 2 |
| VHS VCR           | VTR 3 |
| Video disc player | MDP   |

**2** Use the buttons in this area to operate the video equipment.

### Operating a Video Cassette Recorder

|                                                                |                                                                                        |
|----------------------------------------------------------------|----------------------------------------------------------------------------------------|
| To record                                                      | Press ●.                                                                               |
| To start playback                                              | Press ►.                                                                               |
| To stop                                                        | Press ■.                                                                               |
| To advance the tape rapidly                                    | Press ►►.                                                                              |
| To rewind the tape                                             | Press ◄◄.                                                                              |
| To freeze a picture                                            | Press II.                                                                              |
|                                                                | To resume normal playback, press again.                                                |
| To view the picture at a fast speed to find a particular scene | Keep pressing ►► or ◄◄ during playback. To resume normal playback, release the button. |

### Operating a Video Disc Player

|                                                                |                                                                                                                                                         |
|----------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------|
| To start playback                                              | Press ►.                                                                                                                                                |
| To stop                                                        | Press ■.                                                                                                                                                |
| To freeze a picture                                            | Press II.                                                                                                                                               |
|                                                                | To resume normal playback, press again.                                                                                                                 |
|                                                                | * This function is effective only for CAV (standard-play disc). With CLV (extended-play disc), the unit will go into the standby mode if II is pressed. |
| To view the picture at a fast speed to find a particular scene | Keep pressing ►► or ◄◄ during playback. To resume normal playback, release the button.                                                                  |

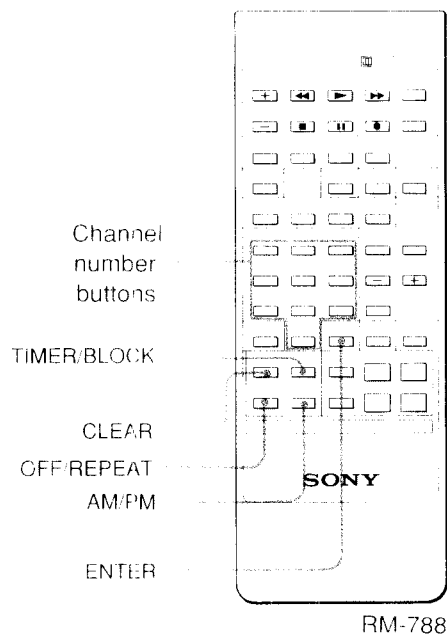
If the equipment does not have a certain function, the corresponding button on this Remote Commander is not effective.

# Timer/Block

## Available Functions

|                                   |                                                                                                                                                                                              |
|-----------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Internal clock</b>             | Once the internal clock is set, the current time will appear on the screen. It is necessary to set the clock correctly to activate the program start <b>TIMER</b> and channel <b>BLOCK</b> . |
| <b>Program start <b>TIMER</b></b> | Makes a program of your choice appear on the screen automatically at the desired time.                                                                                                       |
| <b>Channel <b>BLOCK</b></b>       | Blocks a channel from appearing on the screen for 12 hours. Use channel <b>BLOCK</b> to prevent children from watching undesirable programs.                                                 |

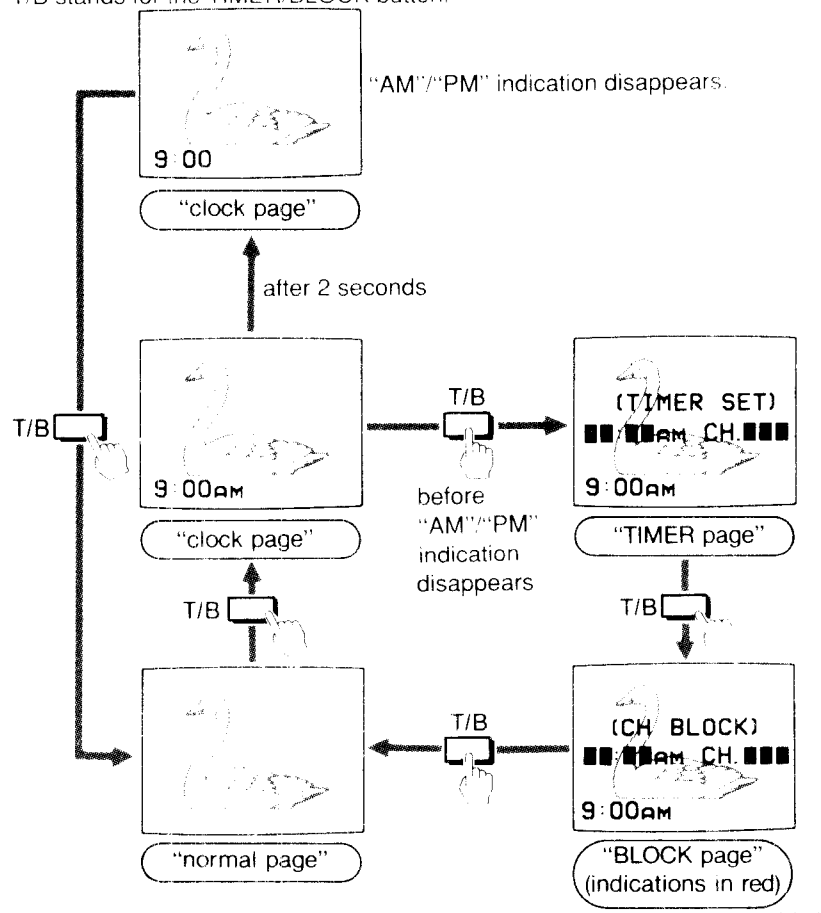
The buttons used for the above functions are located on the Remote Commander.



To set the internal clock, program start **TIMER** and channel **BLOCK**, you must summon the corresponding "pages": "clock page", "TIMER page" and "BLOCK page".

To change the "pages", press **TIMER/BLOCK**.

T/B stands for the **TIMER/BLOCK** button.



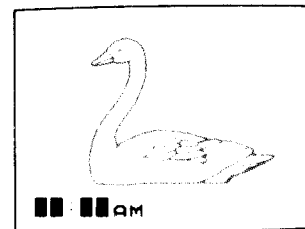
- All settings will be erased from the unit's memory if the unit is unplugged, or if a power failure occurs.
- The **TIMER** and **BLOCK** will operate only if the clock is set correctly.
- If the **TIMER** and **BLOCK** are set for overlapping times on the same channel, the blocked channel will appear on the screen at the time set on the **TIMER**.

## How to Set the Internal Clock

**Example:** To set the clock to 8:05 PM.

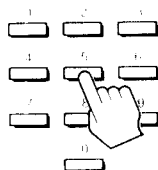
- 1 Press TIMER/BLOCK once to change from "normal page" to "clock page."

TIMER/BLOCK

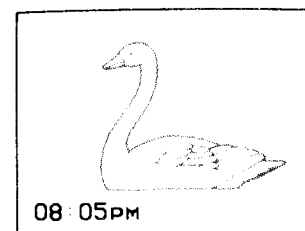
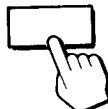


"clock page"

- 2 Press 0, 8, 0, 5 AM/PM (0 necessary).

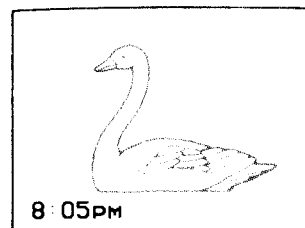


AM/PM



- 3 If you have performed the operation correctly, press ENTER.  
The numbers will "wink" to indicate that the clock has been set. (The 0 in front will disappear.)

ENTER



### If you have made a mistake

Press CLEAR and return to step 2.

The "AM"/"PM" indication will disappear after 2 seconds.

### To summon "TIMER page"

Press TIMER/BLOCK before the "AM"/"PM" indication disappears.

### To return to "normal page"

Press TIMER/BLOCK after the "AM"/"PM" indication has disappeared.

**To reset the clock,** summon "clock page" and press CLEAR before the "AM"/"PM" indication disappears. Then follow the steps above from step 2.

12:00 **AM** stands for midnight.

12:00 **PM** stands for noon.

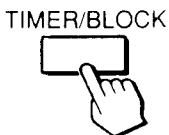
Continued on next page

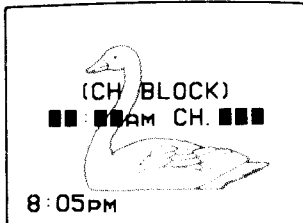
## How to Set the Channel Block

Make sure that the clock has been set correctly before setting the channel BLOCK.

**Example:** To set the BLOCK for a program which begins at 9:30 AM on channel 8

**1** Press TIMER/BLOCK three times to change from "normal page" to "BLOCK page."

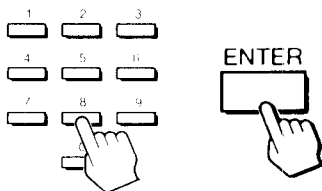


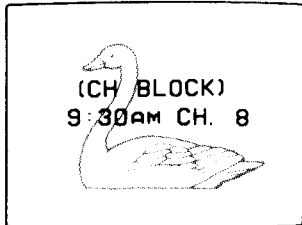


"BLOCK page"  
(indications in red)

---

**2** Press 0, 9, 3, 0, ENTER (0 necessary).  
Numbers will "wink" to indicate that the time has been set.  
Press 8, ENTER (0 not necessary).  
Numbers will "wink" to indicate that the channel has been set.





The BLOCK has now been set.

If you have made a mistake, press CLEAR and return to step 2.

**At the preset time**, the picture of the selected channel will be blocked from view and the sound will be muted.  
A red "BLOCKED" indication will appear on the screen while the channel is blocked.  
Normal reception will be resumed after 12 hours.

**To return to normal reception while the channel is blocked**, recall "BLOCK page" and press CLEAR.

The BLOCK setting blocks a specified channel for the same 12-hour period everyday.

**To clear BLOCK setting**, summon "BLOCK page" and press CLEAR.

**To reset**, clear the setting and follow the steps above from step 2.

## How to Set the Program Start TIMER

Make sure that the clock has been set correctly before setting the program start TIMER.

Example: To set the TIMER for a program which begins at 10:30 PM on channel 12

**1** Press TIMER/BLOCK once to change from "normal page" to "clock page."

TIMER/BLOCK → "clock page"

**2** Press TIMER/BLOCK before the "AM"/"PM" indication disappears and summon "TIMER page."

TIMER/BLOCK → "TIMER page"

**3** Press 1, 0, 3, 0, AM/PM, ENTER. Numbers will "wink" to indicate that the time has been set.

AM/PM ENTER →

**4** Press 1, 2, ENTER (0 not necessary). Numbers will "wink" to indicate that the channel has been set.

ENTER →

The TIMER lamp will light up to indicate that the TIMER has been set.

If you have made a mistake, press CLEAR and return to step 3.

At the preset time, the selected channel will appear on the screen and the TIMER lamp will go out. The TIMER will operate whether you are watching a TV program or a VCR playback, or even if you have turned off the TV.

If no button is pressed within 2 hours after the preset time, an "OFF" indication will appear on the screen for 1 minute. If a button is still not touched during the 1 minute, the TV will turn off automatically as a safety precaution.

The TIMER operates only once, but the time and the channel will remain in the unit's memory.

If you want to preset the same channel at the same time for a future date, press OFF/REPEAT. The TIMER lamp will light up to indicate that the TIMER has been reactivated.

If you want to deactivate the TIMER, press OFF/REPEAT again so that the TIMER lamp goes out. It is not necessary to summon "TIMER page" to use the OFF/REPEAT button. Furthermore, this button is effective even if the TV has been turned off.

To clear the TIMER setting, summon "TIMER page" and press CLEAR.

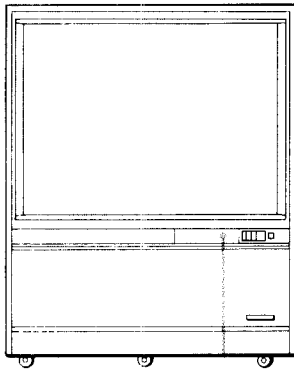
To reset, clear the setting and follow the steps from step 3.

# Application with Optional Equipment

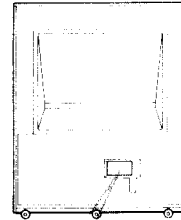
This unit is equipped with various input/output jacks and terminals for your desired equipment to be connected.

For further details, refer to the page number next to each item.

**Front**



**Rear**



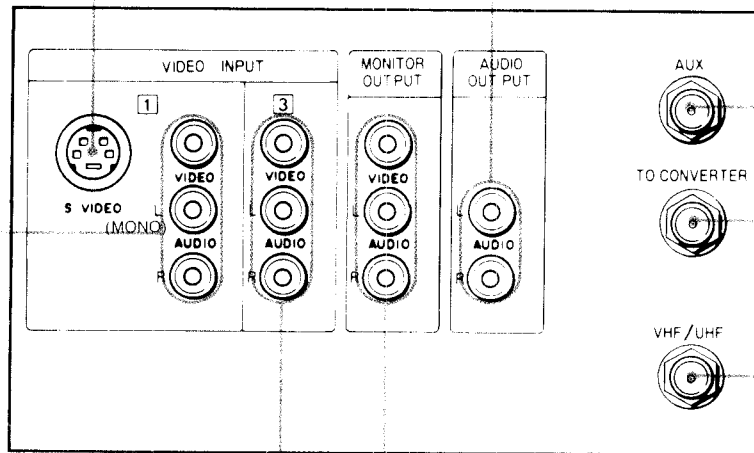
**VIDEO 2 IN (input) jacks** (phono type) **29**  
Connect to a VCR or microcomputer.

**VIDEO 1 S VIDEO jack**  
(4-pin mini DIN type) **28**

Connect to a VCR equipped with the S video output jack. When this jack is connected, even if the "VIDEO" jack (phono type) of the VIDEO 1 INPUT is connected, the picture to be monitored is switched automatically to the signal from this jack.

**AUDIO OUTPUT jacks** (phono type) **30**  
Connect to the audio input jacks of an audio equipment. Either the audio signal of the TV or VCR selected by the TV/VIDEO button is supplied. The volume of the equipment connected to these jacks can be adjusted by VOLUME (or VOL) buttons on this unit (or Commander).

**VIDEO 1 INPUT jacks**  
(phono type) **27** **28**  
Connect to a VCR, video disc player, etc.



**AUX (auxiliary) terminal**  
(F type) **12**

**TO CONVERTER terminal**  
(F type) **12**

**VHF/UHF terminal**  
(F type) **11** **12**

**VIDEO 3 INPUT jacks** (phono type) **29**  
Connect to a VCR, video disc player or audio equipment, etc.

**MONITOR OUTPUT jacks**  
(phono type) **29**  
Connect to a VCR or color monitor. Either the TV or VCR signal selected by the TV/VIDEO button or the mode select buttons is supplied.

You will achieve better picture and sound quality than by connecting the VCR only to the antenna terminals.

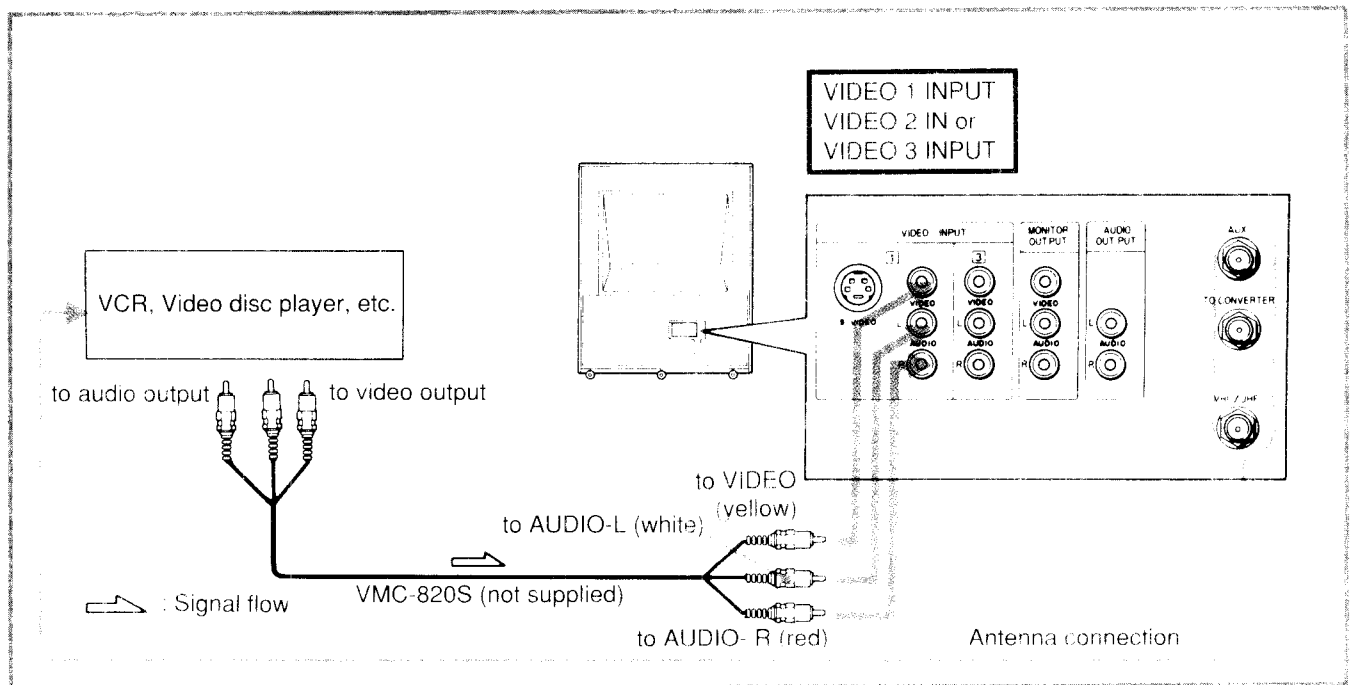
## Notes on connection

- Before connecting, make sure to turn off the power of all equipment.
- The plugs should be fully inserted into the jacks. A loose connection may cause hum and noise.
- Match the color when connecting the plugs to the jacks.

## VCR Connection

Move the VCR away from the projector, if the display or sound is distorted.

### Connecting VCRs/video disc players without the S Video Output Jack



With this connection, you will be able to...

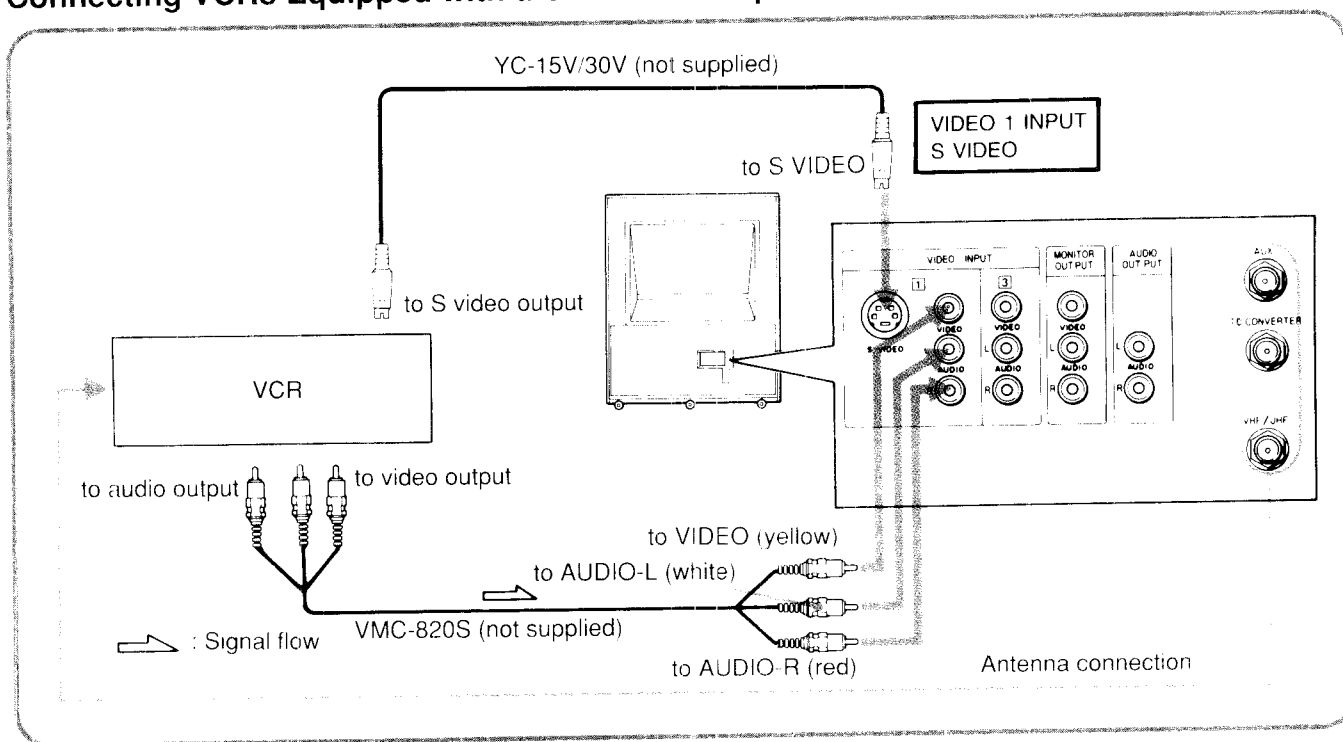
- View the playback of tapes
- Record TV programs
- Record a TV program while viewing another

### Caution

Television programs, films, video tapes and other materials may be copyrighted. Unauthorized recording of such material may be contrary to the provisions of the copyright laws.

Continued on next page

## Connecting VCRs Equipped with the S Video Output Jack



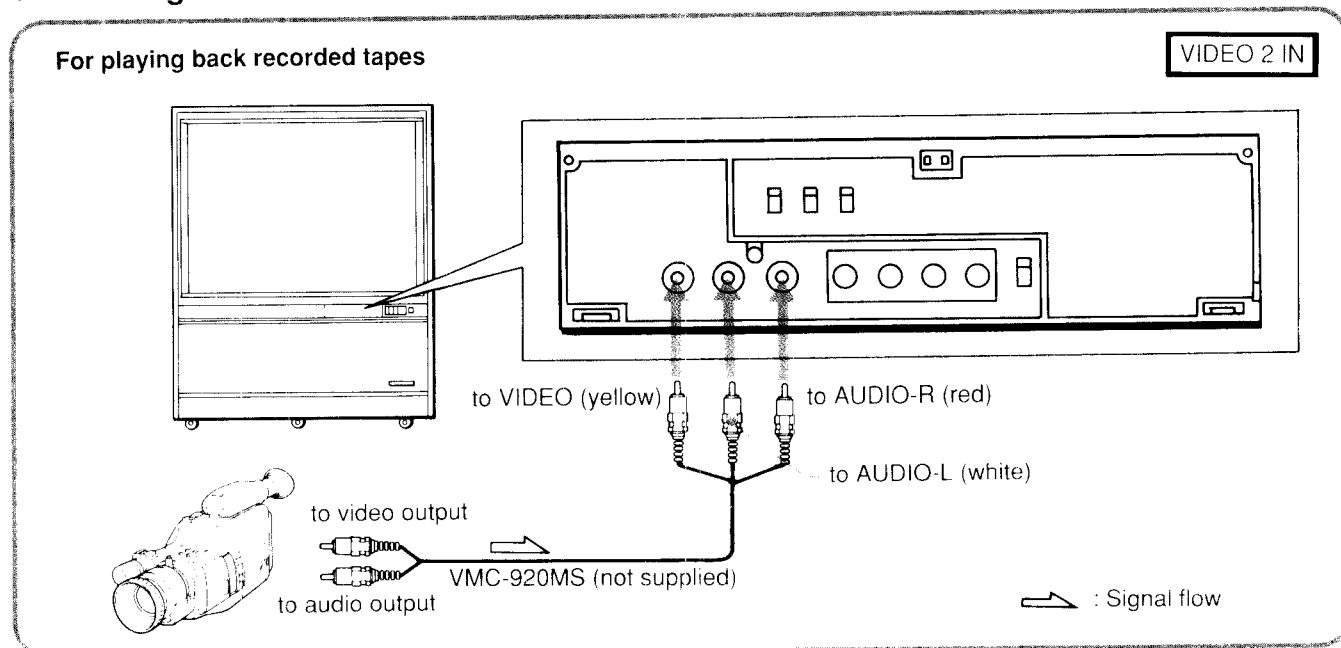
With this connection, you will be able to...

- View the playback of tapes
- Record TV programs
- Record a TV program while viewing another

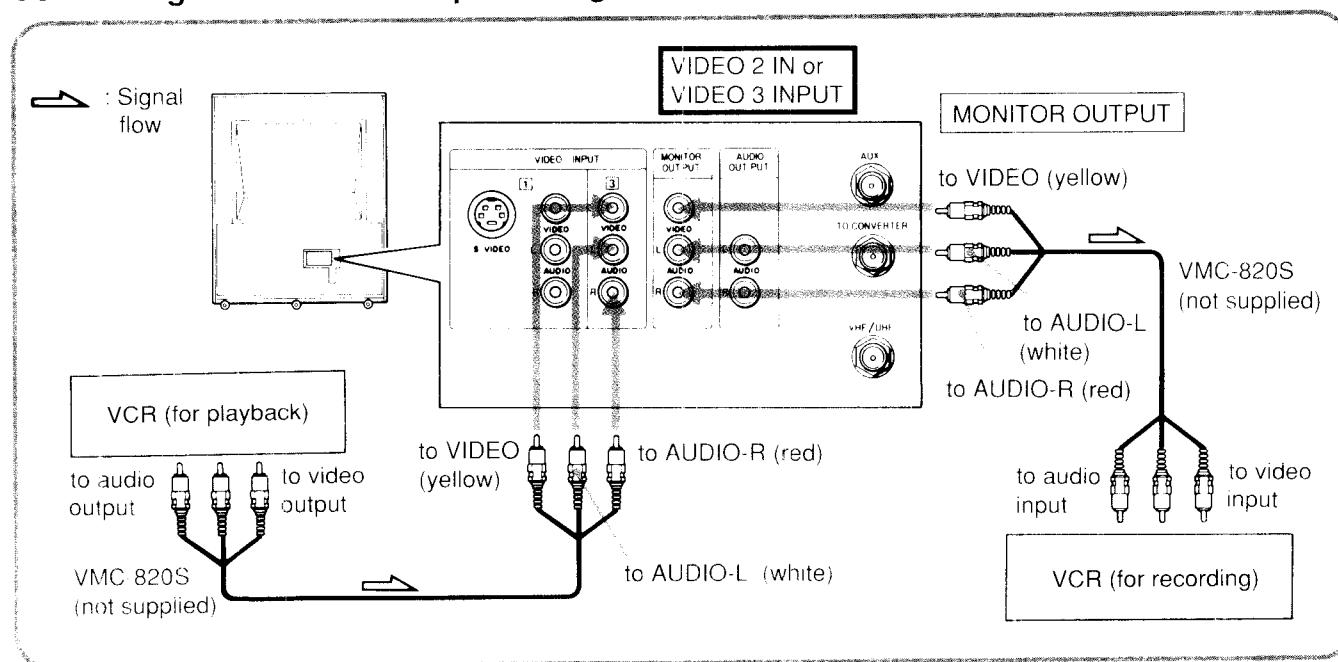
### About S Video Input

Video input and output signals may be separated into Y (luminance or brightness) and C (Chroma or color) signals. Usually these two signals are combined in a VCR and sent as one signal to a projector. Separation of the Y and C signals prevents them from interfering with one another, thereby improving picture (especially in color) quality. This unit is equipped with an S video input jack through which these separated signals can be input directly.

## Connecting Camcorders



## Connecting Two VCRs for Tape Editing



### Operation

- 1 Press the desired mode select button or press the TV/VIDEO button so that the desired video source display appears. The VIDEO lamp will light up.
- 2 Set the playback VCR to the playback mode and set the recording VCR to the recording mode.

To edit the tape, connect the playback VCR to the VIDEO 2 or VIDEO 3 INPUT jacks.

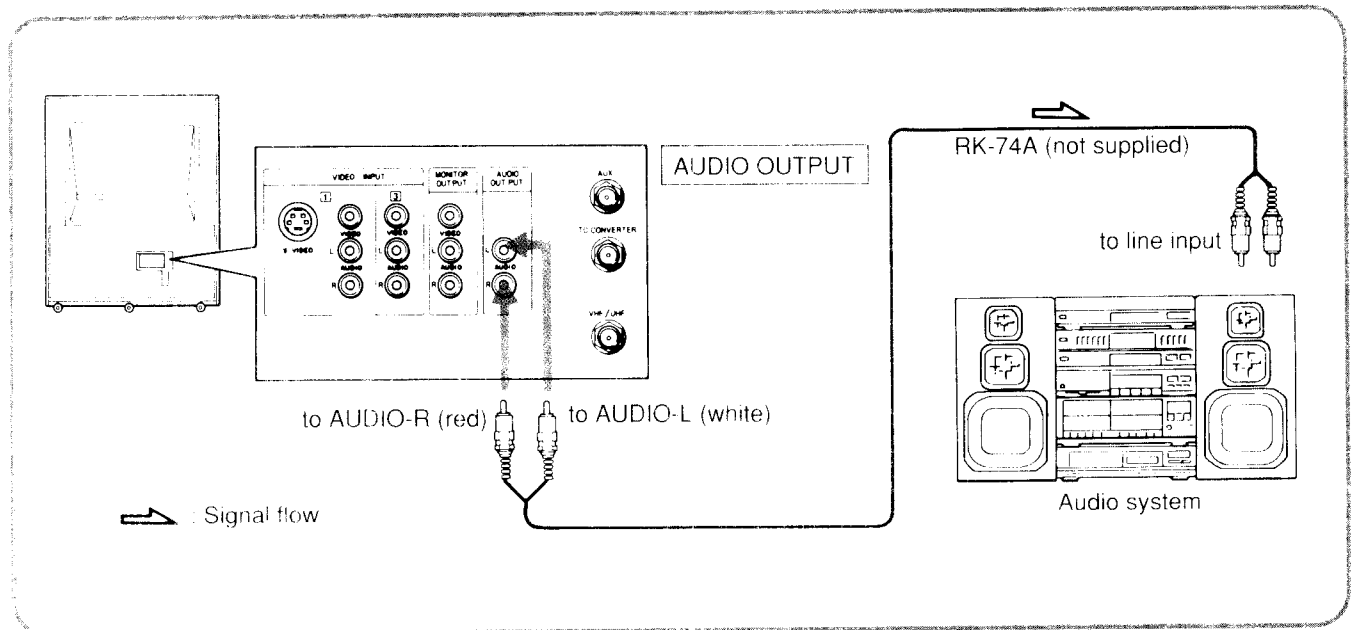
Every time you press the TV/VIDEO button, the display will change as follows:

VIDEO 1 → VIDEO 2 → VIDEO 3 → TV channel

The channel number buttons on the Remote Commander or the CHANNEL scan buttons will not function while the VIDEO lamp is lit.

# Audio System Connection

## To monitor TV sound with a stereo

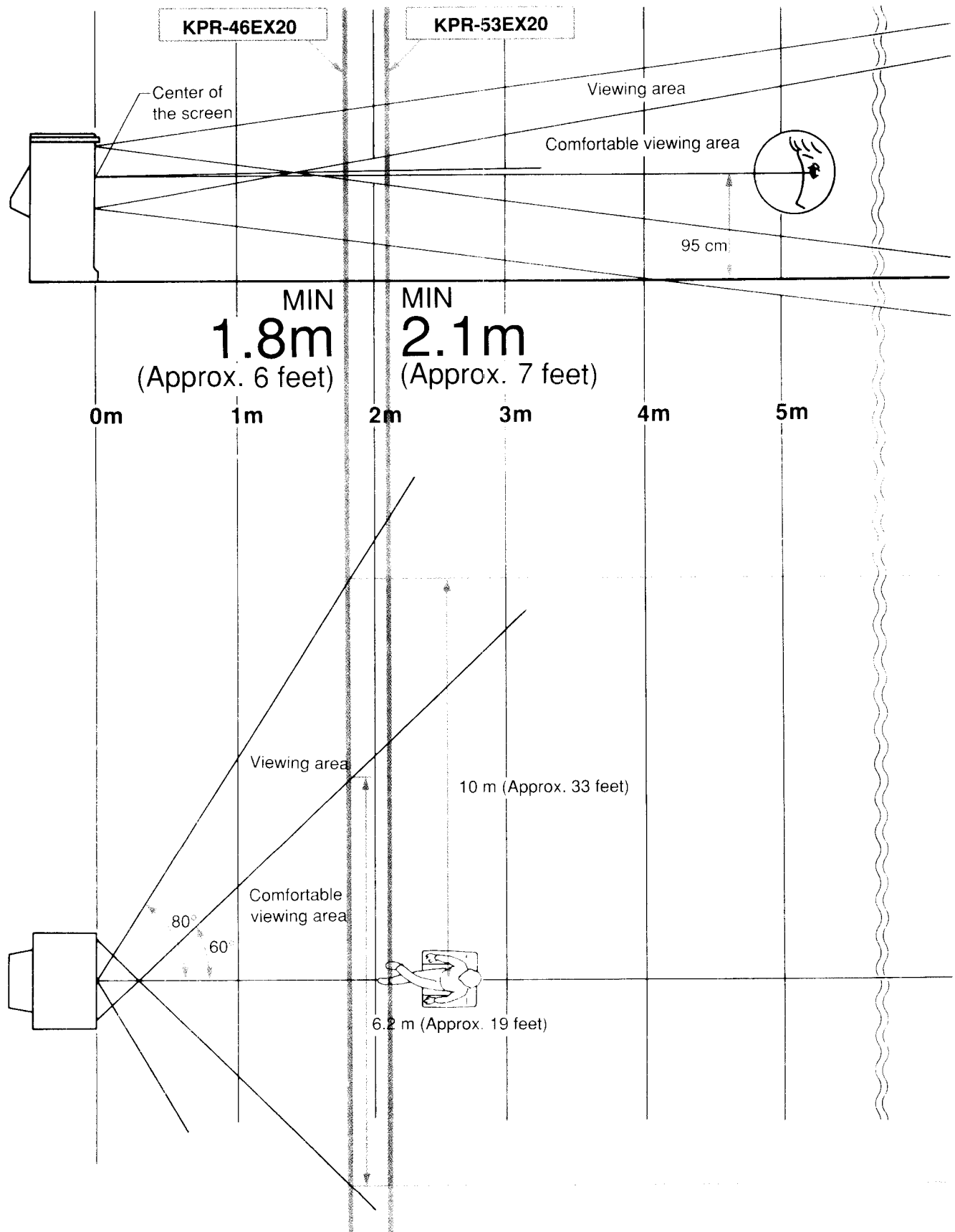


With this connection, you will be able to adjust sound volume from the stereo speakers with the projector or Remote Commander.  
To monitor TV sound only from a stereo system, set the SPEAKER selector on the front panel to OFF.  
When the SPEAKER selector is set to ON, adjust the volume from the speakers with the stereo amplifier.

### Note

When the NORM/TEST selector of the projector is set to TEST, the AUDIO OUTPUT jacks do not output the TV sound

# Notice on Audience Area



# Specifications

|                             |                                                                                     |
|-----------------------------|-------------------------------------------------------------------------------------|
| Structure                   | Screen and projector, rear projection type                                          |
| Projection system           | 3-picture tubes, 3 lenses, horizontal in-line system                                |
| Picture tube                | 5.5 inch high-brightness monochrome tubes, with optical coupling and cooling system |
| Projection lenses           | High performance, large-diameter hybrid lens F 1.0                                  |
| Screen material             | Acrylic plastic, Fresnel, lenticular type                                           |
| Resolution                  | 700 lines                                                                           |
| Optimum seating arrangement | Within approx. 80 degrees from center                                               |

|                                              | KPR-46EX20        | KPR-53EX20        |
|----------------------------------------------|-------------------|-------------------|
| Projected picture size (measured diagonally) | 46 inches         | 53 inches         |
| Screen brightness                            | 450 foot-Lamberts | 370 foot-Lamberts |

|                   |                                                                                                                                                                                                                                                                                                                                                                           |
|-------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Television system | American TV standards                                                                                                                                                                                                                                                                                                                                                     |
| Channel coverage  | VHF: 2-13<br>UHF: 14-69<br>CATV: 1-125                                                                                                                                                                                                                                                                                                                                    |
| Antenna           | 75-ohm external antenna terminal for VHF/UHF/CATV                                                                                                                                                                                                                                                                                                                         |
| Inputs            | VIDEO 1, 2, 3 INPUT (phono jacks)<br>Video: 1 Vp-p, 75 ohms unbalanced, sync negative<br>Audio: 460 m Vrms (100% modulation, 47 kilohms)<br>VIDEO 1 S VIDEO INPUT (4-pin mini DIN)<br>Y: 1 Vp-p, 75 ohms unbalanced, sync negative<br>C: 0.286 Vp-p (Burst signal), 75 ohms<br>75-ohm external antenna terminal for VHF/UHF/CATV<br>AUX 75-ohm auxiliary antenna terminal |
| Outputs           | MONITOR OUTPUT (phono jacks)<br>Video: 1 Vp-p, 75 ohms unbalanced, sync negative<br>Audio: 460 m Vrms (100% modulation, 1 kilohm)<br>AUDIO OUTPUT (phono jacks)<br>460 mVrms (variable) (100% modulation, 1 kilohm)<br>TO CONVERTER terminal                                                                                                                              |
| Speaker           | Two-way coaxial speaker system<br>Woofer 20 cm (8 inches) dia.<br>Tweeter 7.6 cm (3 inches) dia.                                                                                                                                                                                                                                                                          |

|                    |                                                              |
|--------------------|--------------------------------------------------------------|
| Power requirements | 120 V AC, 60 Hz                                              |
| Power consumption  | 290 W (max.),<br>175 W (ave.),<br>3 W (in standby condition) |

|            | KPR-46EX20                                                                                                                                     | KPR-53EX20                                                                                                                                       |
|------------|------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------|
| Dimensions | 1034 × 1307 × 744 mm (w/h/d)<br>(41 <sup>47</sup> / <sub>64</sub> × 51 <sup>17</sup> / <sub>16</sub> × 29 <sup>7</sup> / <sub>16</sub> inches) | 1166 × 1370 × 882*mm (w/h/d)<br>(45 <sup>29</sup> / <sub>32</sub> × 53 <sup>15</sup> / <sub>16</sub> × 34 <sup>23</sup> / <sub>32</sub> *inches) |
| Weight     | 113.5 kg (250 lb. 4 oz)                                                                                                                        | 135 kg (297 lb. 10 oz)                                                                                                                           |

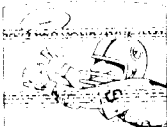
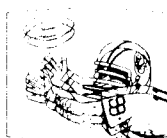
\* 670 mm (26<sup>3</sup>/<sub>8</sub> inches) when the mirror cover is installed inside the cabinet.

|                      |                                                                                       |
|----------------------|---------------------------------------------------------------------------------------|
| Accessories supplied | Remote Commander RM-788 (1)<br>with 2 size AA (R6) batteries<br>Antenna connector (1) |
| Optional accessory   | U/V mixer EAC-66<br>Connecting Cable VMC-820S/920MS<br>YC-15V/30V<br>RK-74A           |

Design and specifications are subject to change without notice.

# Troubleshooting

Disturbances in picture and sound can often be eliminated by checking the symptoms and following the suggestions listed below.

| SYMPTOM     |                                                                                                             | CHECK AND ADJUST                                                                                                                                                                                                                             |
|-------------|-------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| GENERAL     | Poor or no picture (screen not lit), good sound                                                             | <ul style="list-style-type: none"> <li>• Adjust PICTURE.</li> <li>• Adjust BRIGHT with the A/V WINDOW buttons.</li> <li>• Check antenna/cable connections.</li> <li>• Perform the registration adjustment (see page 13).</li> </ul>          |
|             | Good picture, no sound                                                                                      | <ul style="list-style-type: none"> <li>• Press VOLUME +.</li> <li>• Release MUTING on the Remote Commander.</li> <li>• Check that the MTS button is set correctly.</li> <li>• Is the SPEAKER selector set to ON?</li> </ul>                  |
|             | No picture (screen not lit), no sound                                                                       | <ul style="list-style-type: none"> <li>• Is POWER switched on?</li> <li>• Check that the TV/VIDEO button is set correctly.</li> </ul>                                                                                                        |
|             | No color                                                                                                    | <ul style="list-style-type: none"> <li>• Is it a color program?</li> <li>• Adjust COLOR.</li> </ul>                                                                                                                                          |
|             | Snow and noise only                                                                                         | <ul style="list-style-type: none"> <li>• Is it an active or the correct channel?</li> <li>• Check the CABLE selector setting.</li> <li>• Check that the ANT/AUX button is set correctly.</li> <li>• Check antenna connections.</li> </ul>    |
|             |  Dotted lines or stripes | This is often caused by local interference. (ex. cars, neon signs, hairdryers etc.) Adjust the antenna for minimum interference.                                                                                                             |
|             |  Double images or ghosts | Reflections from nearby mountains or buildings often cause this problem. A highly directional outdoor antenna or CATV cable may improve the picture.                                                                                         |
|             | Remote control does not operate.                                                                            | <ul style="list-style-type: none"> <li>• Check the battery in the Remote Commander.</li> </ul>                                                                                                                                               |
| TIMER/BLOCK | Try another channel. It could be station trouble.                                                           |                                                                                                                                                                                                                                              |
|             | Program start TIMER and/or channel BLOCK does not operate properly.                                         | <ul style="list-style-type: none"> <li>• Is the clock set correctly?</li> <li>• Is the setting correct?</li> <li>• Have you unplugged the unit?</li> </ul> <p>Has a power failure occurred?</p> <p>If so, the settings have been erased.</p> |

| SYMPTOM             |                                                     | CHECK AND ADJUST                                                                                                                                                                                                                                                    |
|---------------------|-----------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CONNECTED EQUIPMENT | No picture and/or sound for the connected equipment | <ul style="list-style-type: none"> <li>• Check that the TV/VIDEO button is set correctly.</li> <li>• Are the connections made firmly?</li> <li>• Is the power of the connected equipment turned on?</li> <li>• Is the connected equipment set correctly?</li> </ul> |

If the problem still cannot be solved, contact your nearest service facility.





